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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,845	01/16/2004	Henry A. Bonges III	BUR920030169US1	1844

23550 7590 01/30/2006

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EXAMINER	
ROSSOSHEK, YELENA	

ART UNIT	PAPER NUMBER
2825	

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/707,845	BONGES ET AL.	
	Examiner	Art Unit	
	Helen Rossoshek	2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,8-10,16 and 20* is/are rejected.

7)☒ Claim(s) *2-7,11-15 and 17-19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/16/04,1/21/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the Application 10/707,845 filed 01/16/2004.

2. Claims 1-20 are pending in the Application.

Claim Objections

3. Claims 17-20 are objected to because of the following informalities:

Claims 17-20 have an insufficient antecedent basis issue or improper dependency.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 8, 9, 10, 16 and 20 are rejected under 35 U.S.C. 103(a) as being obvious over Allen et al. (US Patent 6,904,575) in view of Wang (US Patent 6,374,395).

The applied reference (US Patent 6,904,575) has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is

thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

With respect to claims 1, 10 and 16 Allen et al. teaches a method for merging an original circuit shape and at least one overlapping clone of the original circuit shape of an IC design within a method for improving chip yields including creating cloned cells of the original cell of the layout design (abstract), a system for merging an original circuit shape and at least one clone of the original circuit shape of an IC design within a system depicted on the Fig. 8 for implementing the method (col. 8, ll.10-11), computer program product comprising a computer useable medium having computer readable program code embodied therein for merging an original circuit shape and at least one clone of the original circuit shape of an IC design within a program of instructions executable to perform the method including creation of cloned cell of the original cell (col. 10, ll.28-32; ll.38-39), comprising the steps of: determining, for a cell including an original circuit shape and at least one overlapping clone of the original circuit shape, whether each clone corner point of each overlapping clone is within a threshold distance

of a corresponding original corner point of the original circuit shape within creating a cloned cell of the original cell using creator 816 shown on the Fig. 8 (col. 5, ll.35-40), wherein a data (shape, sizes, orientation, direction) of new cloned cells is stored in the shape database (col. 5, ll.43-45), including data of multiple cells in multiple geometric shapes (col. 2, ll.49-52), wherein cells contain shapes in a local coordinate system including x-y translation (direction), mirroring, rotations angle (orientation) (col. 2, ll.35-43) along with creating ground rule (col. 5, ll.66-67), which is used as a base for creating design rules (col. 6, ll.21-29), wherein design rule is applied to the shape database 440 as shown on the Fig. 4 (col. 6, ll.34-37). However Allen et al. lacks specifics regarding overlapping cloned cell and original cell and merging the overlapping clone and the original cell without containing any notches. Wang teaches generating, in the case that each clone corner point of each overlapping clone is within the threshold distance, a union of each overlapping clone and the original circuit shape such that the union does not contain a notch within a method for generating a design rule check notch-error free core cell library layout including merging the information of two shapes (the original metal shape data and the data of shape of original via device) by creating new data that is free of the notch error (abstract), wherein the data of the cell layout that is relevant and required to create the physical layout of the cell (IC) is stored in the database (col. 5, ll.53-55) and essentially contains geometric parameters of the various shapes that make up the cell including all numerical data (x/y coordinates) that is required to identify and describe the cell layout (col. 5, ll. 59-65), wherein while two shapes are merged (overlapped), the design rule checking tool performs analysis to

identify notch error for farther elimination of this error from the layout (col. 6, ll.16-22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have Wang to teach the specifics subject matter Allen et al. does not teach, because the data that is used for device layout and device creation does not have to be examined for the presence of notch errors which results in a significant savings in time during the design cycle (col. 7, ll.28-31).

With respect to claims 8, 9 and 20 Allen et al. teaches:

Claims 8 and 20: comprising the step of conducting a ground rule fix-up of the union by creating a ground rule associated with the shapes under consideration (col. 5, ll.66-67);

Claim 9: comprising the step of substituting the union in the IC design within replicator 820 as shown on the Fig. 8, wherein replicator is for replacing the original cell with the cloned cell in the integrated circuit design (col. 8, ll.23-24).

Allowable Subject Matter

6. Claims 2-7, 11-15 and 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record does not teach the specific arrangement of elements including: while the original circuit shape merged with clone of the original circuit shape determination of the shape direction of the original circuit shape; determination for each corner point of the original circuit shape that has at least one corresponding clone corner point that is not identical to the original corner point, a previous and next edges orientation; indication which X

and Y coordinates among an original corner point and at least one corresponding clone corner point is selected to generate a union corner point; comparing respective coordinates of the original corner point and each corresponding clone corner point and selecting an X and a Y coordinate for the union corner point based on the point code; and generating the union based on any union corner points.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen Rossoshek whose telephone number is 571-272-1905. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

STACY A. WHITMORE
PRIMARY EXAMINER

Examiner
Helen Rossoshek
AU 2825